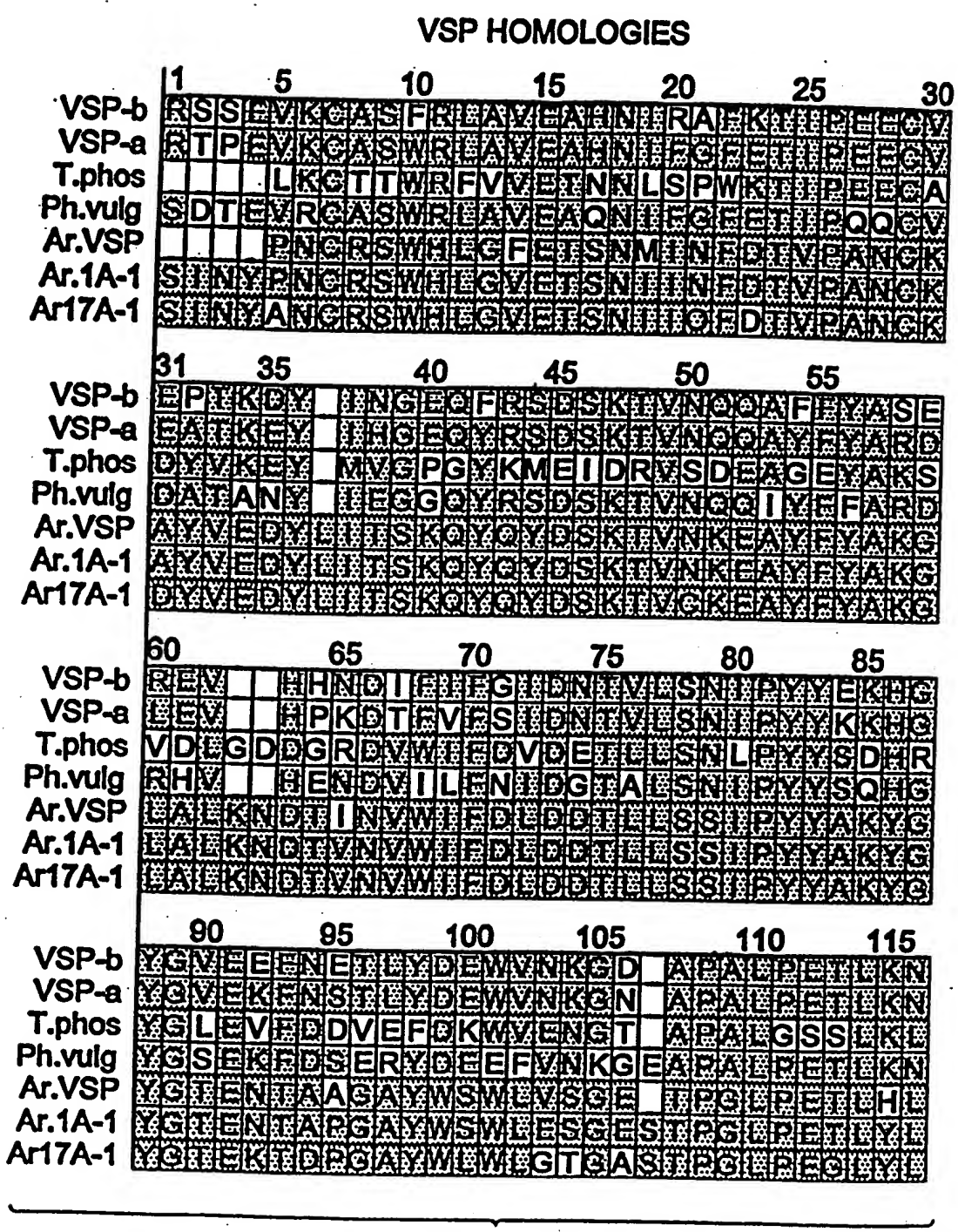


TO FIG. 1B.

FIG. 1A.

FROM FIG. 1A.

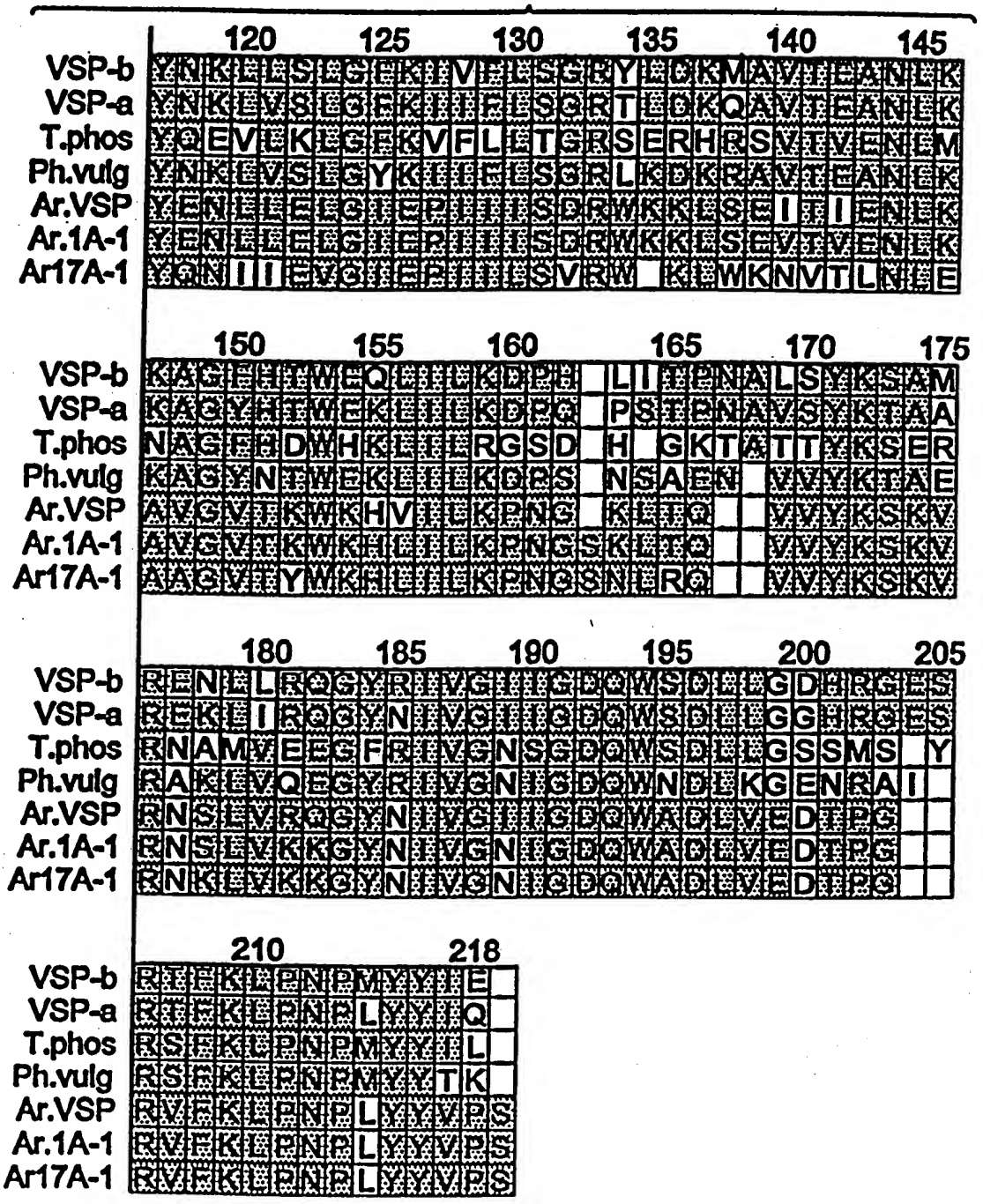


FIG. 1B.

PROPOSED VSPβ METHIONINE-ENRICHED VARIANTS

	1	5	10	15	20	25	30
VSPβ	R S S E V K C A S F R L A V E A H N I R A F K T I P E E C V						
VSPβ-Met10		M			M		M
VSPβ-Met20		M			M		M
VSPβ-Met30		M			M	M	M

	31	35	40	45	50	55	60
VSPβ	E P T K D Y I N G E Q F R S D S K T D N Q Q A F F Y A S E R						
VSPβ-Met10		M		M			M
VSPβ-Met20	M	M		M			M
VSPβ-Met30	M	M		M	M		M

	61	65	70	75	80	85	90
VSPβ	E V H H N D I F I F G I D N T V L S N I P Y Y E K H G Y G V						
VSPβ-Met10	M	M	M	M			
VSPβ-Met20	M	M M	M	M			M
VSPβ-Met30	M	M M	M	M	M		M

	91	95	100	105	110	115	120
VSPβ	E E F N E T L Y D E W V N K G D A P A L P E T L K N Y N K L						
VSPβ-Met10							
VSPβ-Met20		M	M				
VSPβ-Met30	M	M	M				

	121	125	130	135	140	145	150
VSPβ	L S L G F K I V F L S G R Y L D K M A V T E A N L K K A G F						
VSPβ-Met10	M	M			M	M	
VSPβ-Met20	M	M	M	M	M	M	M
VSPβ-Met30	M	M	M	M	M M	M	M

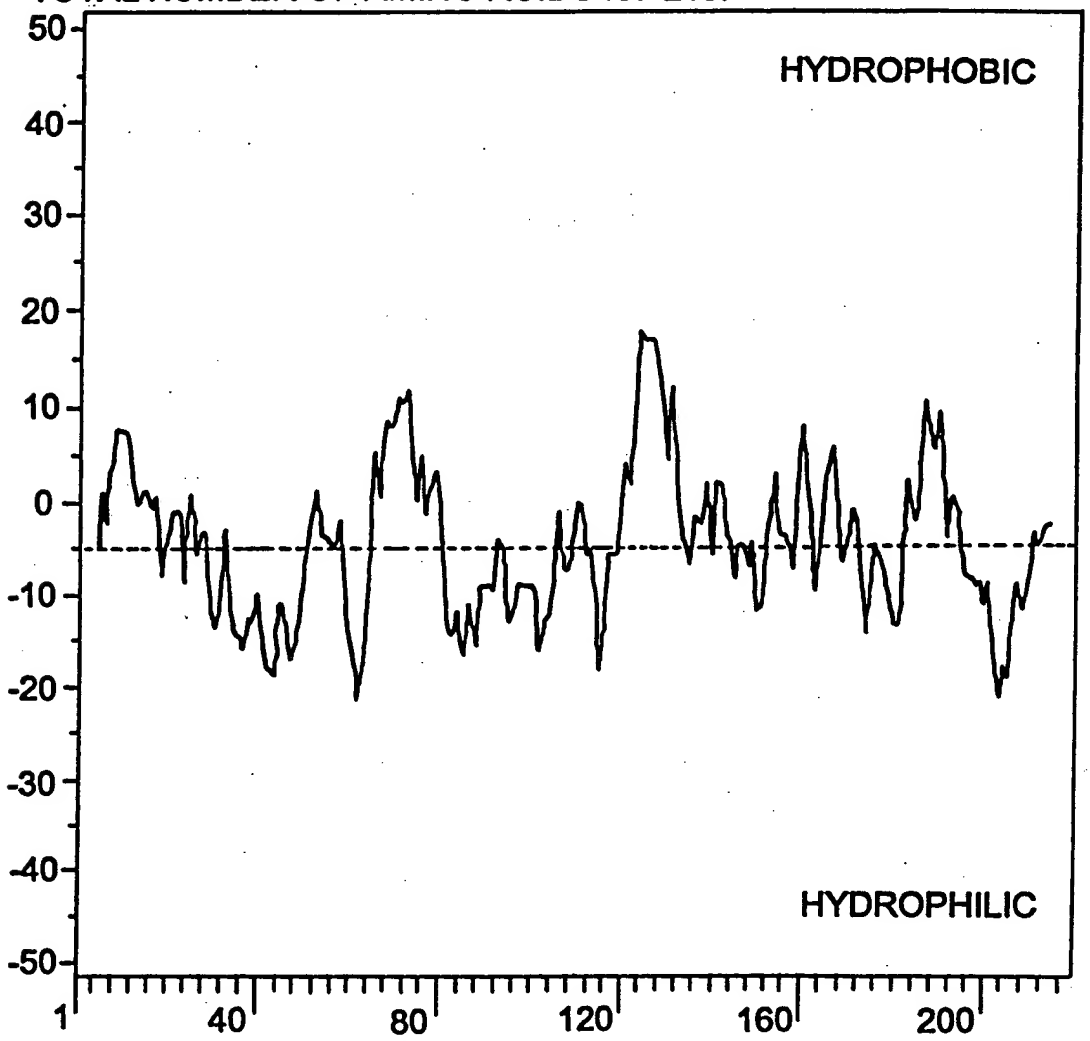
	151	155	160	165	170	175	180
VSPβ	H T W E Q L I L K D P H L I T P N A L S Y K S A M R E N L L						
VSPβ-Met10						M	M
VSPβ-Met20				M	M	M	M
VSPβ-Met30			M	M M	M	M	M

	181	185	190	195	200	205	210
VSPβ	R Q G Y R I V G I I G D Q W S D L L G D H R G E S R T F K L						
VSPβ-Met10			M		M		
VSPβ-Met20			M		M M	M	
VSPβ-Met30			M		M M	M	

	211	215	218
VSPβ	P N P M Y Y I E		
VSPβ-Met10	M	M	
VSPβ-Met20	M	M	
VSPβ-Met30	M	M	

FIG. 2.

HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPB.
TOTAL NUMBER OF AMINO ACIDS IS: 218.



HYDROPATHIC INDEX OF VSPB FROM AMINO ACID 1 TO AMINO ACID 218.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=-4.95).

FIG. 3A.

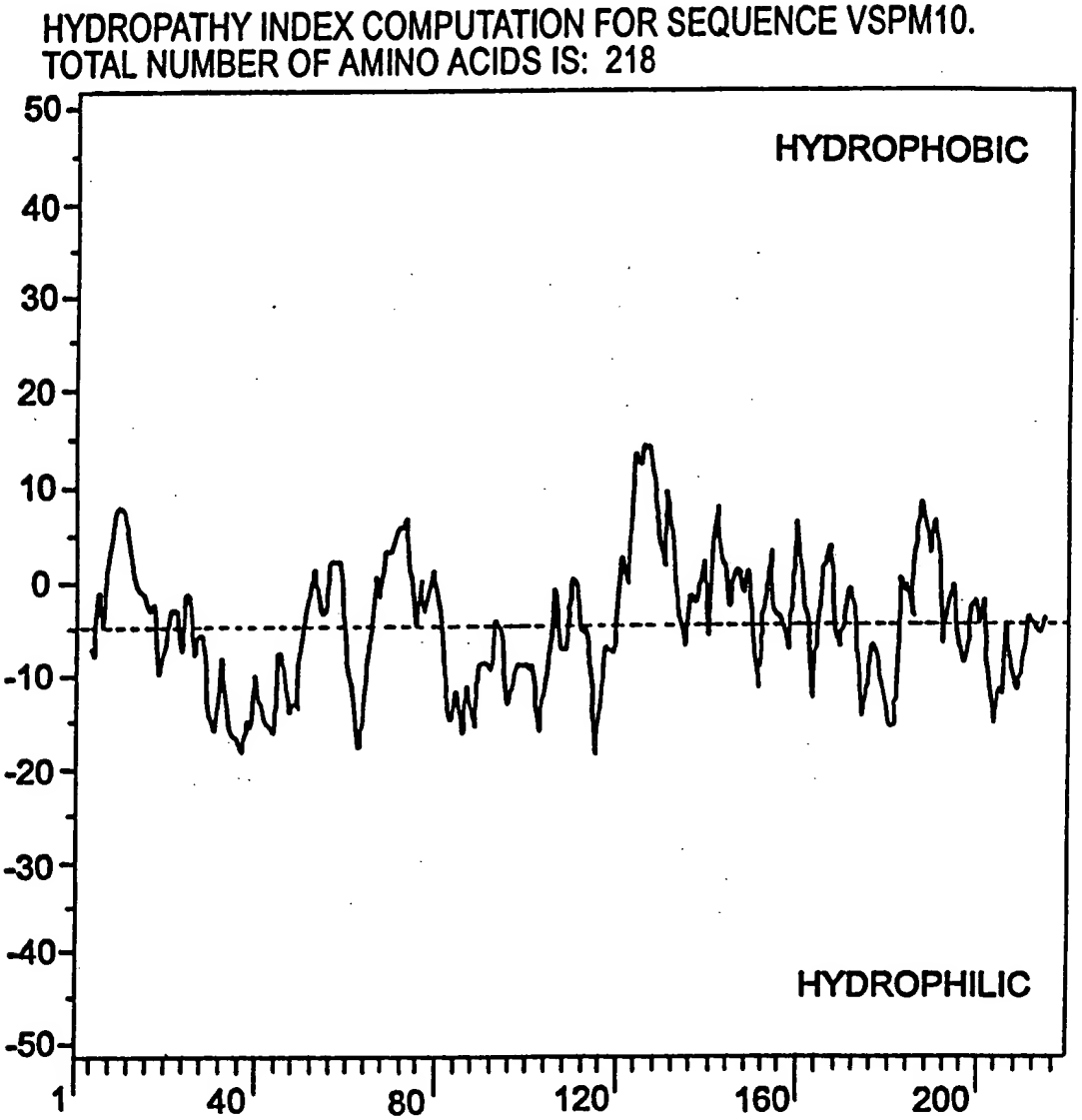

HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPM10.
TOTAL NUMBER OF AMINO ACIDS IS: 218
HYDROPHOBIC
HYDROPHILIC
50
40
30
20
10
0
-10
-20
-30
-40
-50
1
40
80
120
160
200
HYDROPATHIC INDEX OF VSPM1 FROM AMINO ACID 1 TO AMINO ACID 218.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=5.52).

FIG. 3B.

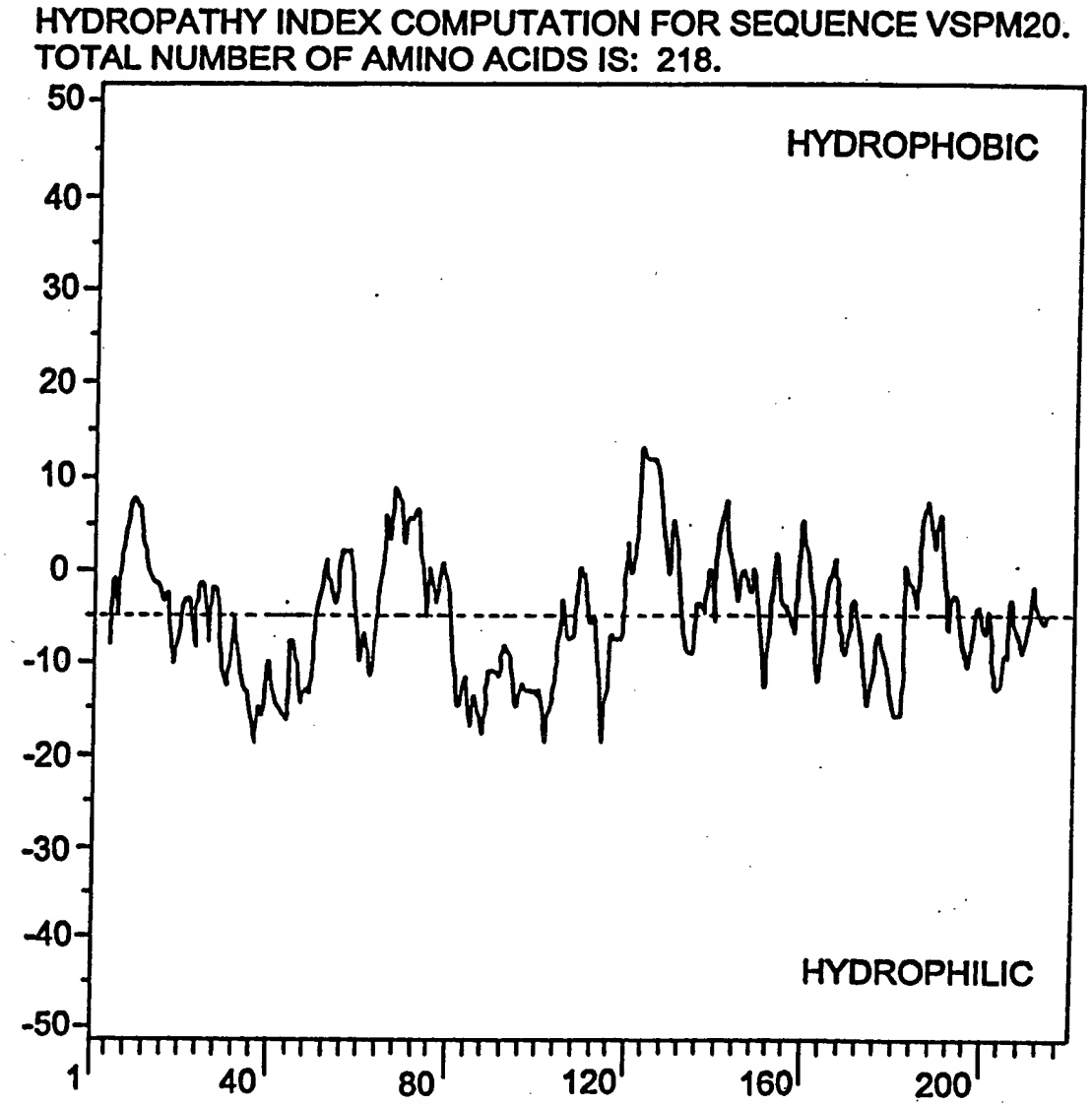
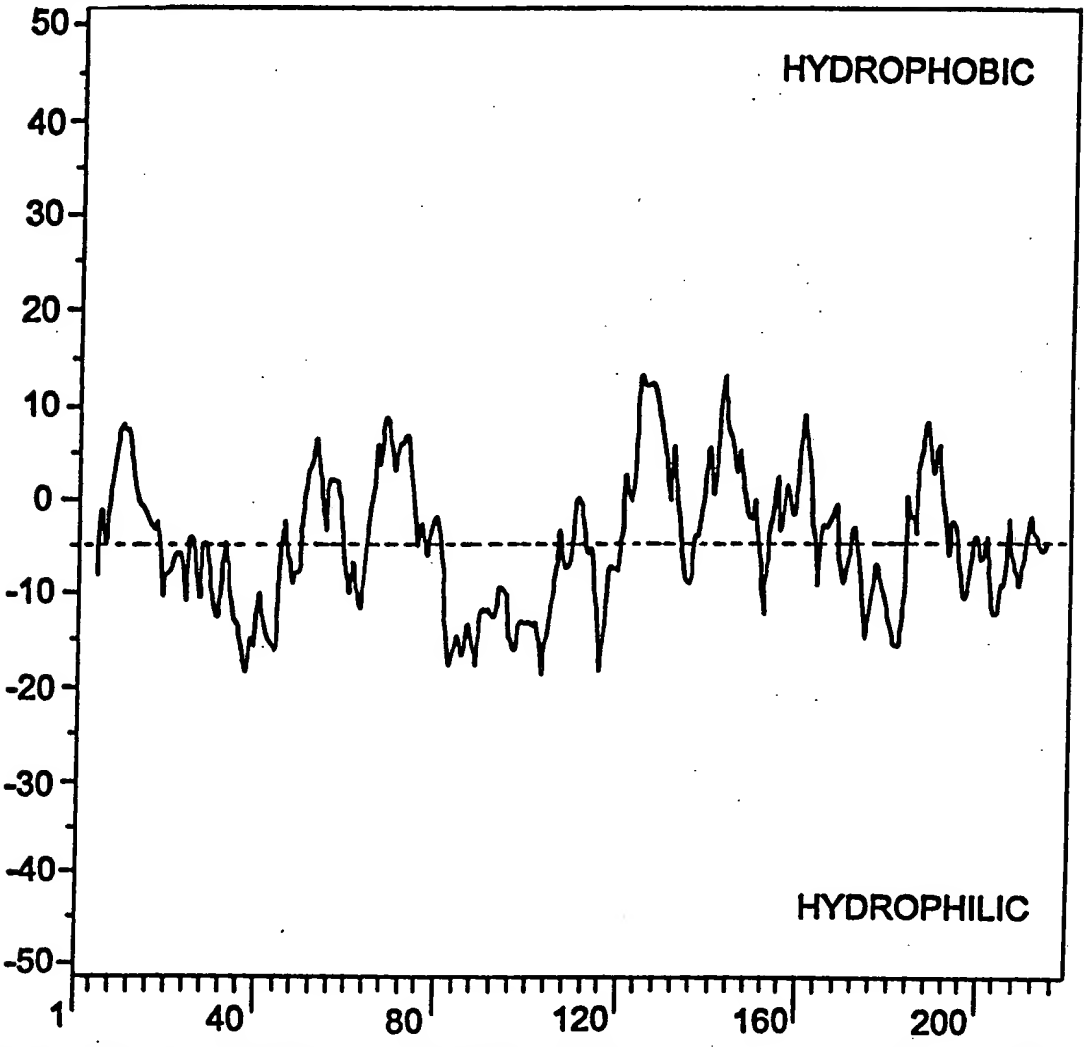

HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPM20.
TOTAL NUMBER OF AMINO ACIDS IS: 218.
50
40
30
20
10
0
-10
-20
-30
-40
-50
HYDROPHOBIC
HYDROPHILIC
1
40
80
120
160
200
HYDROPATHIC INDEX OF VSPM20 FROM AMINO ACID 1 AMINO ACID 210.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=-5.68).

FIG. 3C.

HYDROPATHY INDEX COMPUTATION FOR SEQUENCE VSPM30.
TOTAL NUMBER OF AMINO ACIDS IS: 218.



HYDROPATHIC INDEX OF VSPM30 FROM AMINO ACID 1 TO AMINO ACID 218.
COMPUTED USING AN INTERVAL OF 9 AMINO ACIDS. (GRAVY=-5.31).

FIG. 3D.

VSPβ-met10 sequence

SfiI

```
1    GGCCCAGCCGGCCAGATCTTCGGAGATGAAATGCGCTAGCTTTAGGCTTGCTGTGGAAGC   60
     CCGGGTCGGCCGGTCTAGAAGCCTCTACTTTACGCGATCGAAATCCGAACGACACCTTCG

61   ACACAACATGCGAGCCTTTAAAACCATTCCTGAAGAGTGCATGGAACCAACAAAGGACTA  120
     TGTGTTGTACGCTCGGAAATTTTGGTAAGGACTTCTCACGTACCTTGGTTGTTTCCTGAT

121  CATGAATGGCGAACAATTTCGAATGGACTCTAAAACAGTTAACCAACAGGCCTTCTTTTA  180
     GTACTTACCGCTTGTTAAAGCTTACCTGAGATTTTGTCAATTGGTTGTCCGGAAGAAAAT

181  TGCTAGTGAAATGGAAATGCATCACAACGACATGTTTATATTCGGCATGGATAACACCAT  240
     ACGATCACTTTACCTTTACGTAGTGTTGCTGTACAAATATAAGCCGTACCTATTGTGGTA

241  GCTCTCTAATATCCCATACTATGAAAAACATGGATATGGGGTGGAGGAATTTAATGAAAC  300
     CGAGAGATTATAGGGTATGATACTTTTTGTACCTATACCCCACCTCCTTAAATTACTTTG

301  CTTATATGATGAATGGGTTAACAAGGGCGACGCACCGGCATTGCCAGAGACTCTTAAAAA  360
     GAATATACTACTTACCCAATTGTTCCCGCTGCGTGGCCGTAACGGTCTCTGAGAATTTTT

361  TTACAACAAGCTGATGTCCCTTGGCTTCAAGATGGTATTCTTGTCAGGAAGGTACCTTGA  420
     AATGTTGTTCGACTACAGGGAACCGAAGTTCTACCATAAGAACAGTCCTTCCATGGAACT

421  CAAAATGGCCGTAACAGAAGCAAACCTAATGAAGGCTGGCTTCCACACATGGGAGCAGTT  480
     GTTTTACCGGCATTGTCTTCGTTTGGATTACTTCCGACCGAAGGTGTGTACCCTCGTCAA

481  AATTCTCAAGGATCCACATCTTATGACTCCAAATGCACTTTCATACAAATCAGCAATGAG  540
     TTAAGAGTTCCTAGGTGTAGAATACTGAGGTTTACGTGAAAGTATGTTTAGTCGTTACTC

541  AGAGAATATGTTGAGGCAGGGATACAGAATTGTTGGAATGATTGGTGATCAATGGAGCGA  600
     TCTCTTATACAACTCCGTCCCTATGTCTTAACAACCTTACTAACCACTAGTTACCTCGCT

601  TCTGCTTGGAGACCACATGGGCGAATCTAGAACCTTTAAGCTTCCTAATCCCATGTACTA  660
     AGACGAACCTCTGGTGTACCCGCTTAGATCTTGGAAATTCGAAGGATTAGGGTACATGAT

661  CATGGAGGCGGCCGC  675
     GTACCTCCGCCGGCG
          NotI
```

Fig. 4

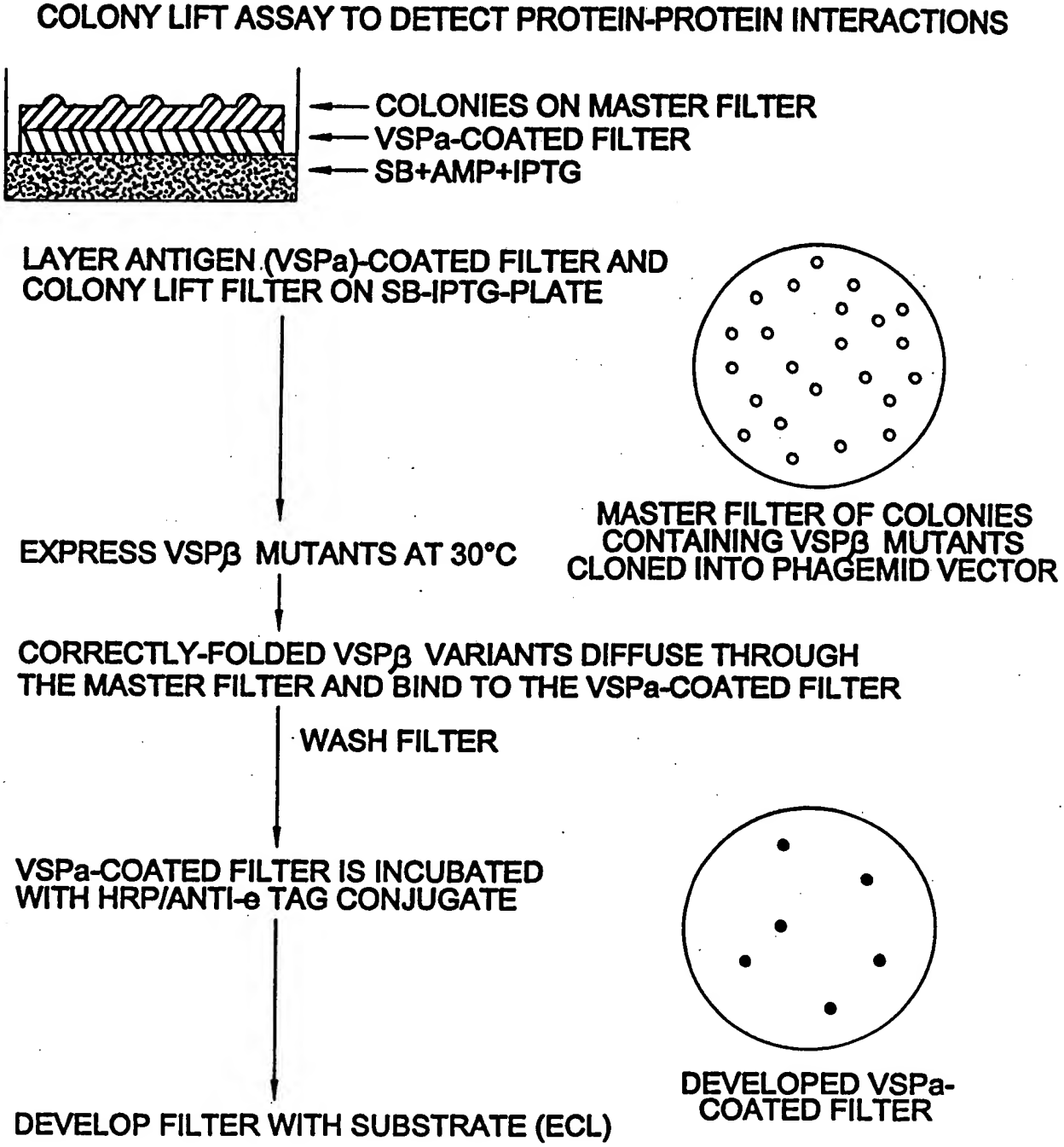

COLONY LIFT ASSAY TO DETECT PROTEIN-PROTEIN INTERACTIONS
COLONIES ON MASTER FILTER
VSPa-COATED FILTER
SB+AMP+IPTG
LAYER ANTIGEN (VSPa)-COATED FILTER AND COLONY LIFT FILTER ON SB-IPTG-PLATE
EXPRESS VSPβ MUTANTS AT 30°C
MASTER FILTER OF COLONIES CONTAINING VSPβ MUTANTS CLONED INTO PHAGEMID VECTOR
CORRECTLY-FOLDED VSPβ VARIANTS DIFFUSE THROUGH THE MASTER FILTER AND BIND TO THE VSPa-COATED FILTER
WASH FILTER
VSPa-COATED FILTER IS INCUBATED WITH HRP/ANTI-e TAG CONJUGATE
DEVELOPED VSPa-COATED FILTER
DEVELOP FILTER WITH SUBSTRATE (ECL)

FIG. 5.